Amendments to the Drawings

The Office Action objects to Figures 5, 6 and 7 for their shaded boxes. The enclosed replacement drawing sheets amend these figures to remove the shading in these boxes.

REMARKS/ARGUMENTS

Claims 1-32 were pending in the Office Action, and upon entry of the present Amendment, these claims remain pending. In the Office Action, claims 1, 4, 5, 11 and 12 stand rejected under 35 U.S.C. §102(e) as being anticipated by Fodor (U.S. Patent Publication No. 2001/0027490). Claims 2, 3, 6-10, 29 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over an alleged combination of Fodor and Li (U.S. Patent No. 6,728,365). Claims 13, 14 and 16-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over an alleged combination of Fodor and Khalil (U.S. Patent No. 6,578,085). Claims 25-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over an alleged combination of Fodor, Khalil and Lomp (U.S. Patent No. 5,345,467). Claims 30 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over an alleged combination of Fodor, Li and Leung (U.S. Patent No. 6,760,444).

The Office Action also indicates that dependent claim 15 recites allowable subject matter, and Applicant wishes to thank the Examiner for this indication. In the present Amendment, claim 15 is rewritten in independent form.

The Office Action also contained an objection to the drawings, and the present Amendment includes replacement drawing figures that are believed to obviate this objection. In the discussion below, Applicant now turns to the Office Action's rejection of the claims.

Independent Claim 1, and Dependent Claims 2-5 and 11-28

Amended independent claim 1 recites, among other features, the following:

> ... handing over the mobile node from an old access router to a new access router; and
>
> transferring, as part of the handover, PATH and RESV state block information from the old access router to the new access router,

>whereby an RSVP resource allocated to the mobile node prior to
>the handover is reused for the mobile node after the handover.

In rejecting claim 1, the Office Action alleges that each and every recited feature is found in Fodor. Applicant respectfully submits that Fodor fails to teach or suggest the method recited in amended independent claim 1. For example, Fodor is nearly silent on the issue of handovers (making only a passing reference in paragraph 137, which states that handover procedures are included among the tasks handled by the UMTS). Fodor fails to teach or suggest the recited step of transferring, as part of the handover, PATH and RESV state block information.

None of the other references of record overcomes this deficiency in Fodor. A number of other claims recited certain handover features, and to address those, the Office Action relied on another reference, Khalil. Khalil relates generally to wireless internet access, and although it does discuss some route optimization approaches, it offers no teaching or suggestion of the recited step of transferring, as part of the handover, PATH and RESV state block information. In fact, the entire Khalil reference never even mentions such state block information.

Applicant submits that amended independent claim 1 distinguishes over the references of record, and is in condition for allowance. Claims 2-5 and 11-28 depend from claim 1, and are allowable for at least the same reasons as claim 1, and further in view of the various advantageous and novel features recited therein. For example, claim 2 recites "[t]he method according to claim 1, wherein REFRESH messages are exchanged between the intermediate nodes, wherein the mobile node is attached to a first node of the intermediate nodes by a wireless link, and wherein subsequent REFRESH message do not traverse the wireless link," while claim 3 recites "[t]he method according to claim 1, wherein the correspondent node is attached to a second node of the intermediate nodes by a further wireless link, and wherein subsequent REFRESH messages do not traverse the further wireless link." The Office Action relies on Li,

Figs. 11B-C and col. 18, lines 4-40 to show an alleged avoidance of wireless links. Office Action, p. 8. However, these portions fail to teach or suggest "wherein subsequent REFRESH messages do not traverse the further wireless link," as recited in amended independent claim 1. Indeed, the very portion cited by the Office Action explicitly states that Li's messages are ultimately transmitted to the mobile terminal 16. Li, col. 18, lines 30-31 ("... the RESV message can be forwarded to the mobile terminal 16 ...") and 38-39 ("After successful negotiation, the RESV message is forwarded to the mobile terminal 16.").

As another example, claim 11 recites "[t]he method according to claim 1, wherein the method further comprises performing proactive RSVP signaling for upstream data at the time of handover of mobile node from one access router to another." The Office Action relies entirely on Fodor as showing this feature, citing page 7, paragraphs 131-137. The cited portion, and indeed the entire reference, only mentions handovers once. This fleeting mention occurs at the end of paragraph 137, in which Fodor states that the UMTS functions can handle a variety of tasks, including "handover procedures." There is no teaching or suggestion of what these procedures are, or whether they include "proactive RSVP signaling for upstream data at the time of handover," as recited in claim 11.

As another example, claim 14 recites "[t]he method according to claim 13, wherein the method further comprises informing the access router to which correspondent node is attached not to reserve any new link resources for the sent RESV message for upstream data." The Office Action alleges that Khalil discloses this feature at col. 4, lines 1-20 and col. 5, lines 9-32, with the Home Agent 46 using CoA tunneling to directly communicate with the mobile node 42, without using a foreign agent. This Khalil disussion fails to teach or suggest informing the Home Agent 46 (the alleged access router in claim 14) not to reserve any new link resources for

the send RESV message for upstream data. Indeed, Khalil does not even mention an RESV message, much less offer any instruction as to what resources should, or should not, be reserved for a sent RESV message.

As another example, claim 16 recites "[t]he method according to claim 13, wherein the PATH state block and the RESV state block are modified before transferring to reflect a new care-of address of the mobile node." The Office Action relies on Khalil for this modification of the PATH state block and the RESV state block, but as noted above, Khalil does not even mention any PATH state block or RESV state block. The specific portion cited in the Office Action refers to a specific form of triangle routing, but fails to teach or suggest the method recited in claim 16.

As another example, claim 22 recites "The method according to claim 13, wherein the method further comprises intercepting subsequent RESV REFRESH messages for the upstream data at the new access router so that they do not traverse the wireless link to which the mobile node is attached." The Office Action cites Khalil (col. 3, line 50 to col. 4, line 30 and col. 5, lines 9-32) to show this feature, but those portions (and the entirety of Khalil, for that matter) do not discuss RESV REFRESH messages, and do not teach or suggest the recited step of intercepting.

As another example, claim 26 recites "[t]he method according to claim 25, wherein the method further comprises deciding at the mobile node whether to continue the packet session in case the required resource is not available along the new packet path." The Office Action cites Lomp, steps 534 and 538 in Fig. 8C to show this step of deciding at the mobile node. Office Action, p. 20. However, these Lomp steps are performed by Base Station 2, and not the Lomp mobile station. See, e.g., Fig. 8C (step 534 labeled "Base Station 2 Evaluates Index"; step 538

labeled "Evaluate with Other Parameters; Loading, Range Rate of change, etc. by Base Station 2").

Independent Claim 6, and Dependent Claims 7-10 and 29-32

Independent claim 6 recites, among other features, the steps of:

> "... forming a proxy REFRESH generation function for upstream data in a node that is close to the mobile node in the end-to-end packet path and a proxy REFRESH interception function for upstream data in a node that is close to the correspondent node in the end-to-end packet path, so that the REFRESH messages do not traverse the wireless links; ..." and

> "...forming a proxy REFRESH generation function for downstream data in a node that is close to the correspondent node in the end-to-end packet path and a proxy REFRESH interception function for downstream data in a node that is close to the mobile node in the end-to-end packet path, so that the REFRESH messages do not traverse the wireless links."

Independent claim 6 stands rejected as being anticipated by Fodor. However, the Office Action has already conceded that "Fodor does not explicitly disclose the messages do not traverse the wireless links." Office Action, p. 8. (addressing claim 2, which recited, among other features, "wherein subsequent REFRESH messages do not traverse the wireless link."). Accordingly, Applicant respectfully submits that Fodor does not teach or suggest the method recited in claim 6, which recites, among other features, "... so that the REFRESH messages do not traverse the wireless links."

As discussed above, the Office Action rejected certain dependent claims by alleging that another reference, Li, shows the general concept of transmitting messages without traversing a wireless link. Id. To the contrary, and as also discussed above, Li states that its messages are ultimately transmitted to the mobile terminal.

Applicant submits that claim 6 is distinguishable over the references of record, and is in condition for allowance. Claims 7-10 and 29-32 depend from claim 6, and are allowable for at least the same reasons as claim 6, and further in view of the various advantageous and novel features recited therein. For example, claim 8 recites the following:

> The method according to claim 6, wherein a proxy REFRESH interception function for upstream data responds to the PATH REFRESH message by sending RESV REFRESH message on behalf of the correspondent node, if the latter is attached using the further wireless link; and
>
> does not allow PATH REFRESH message to be transmitted over the further wireless link.

The Office Action relies on the same prior discussion of Li to show an avoidance of wireless links, and as discussed above, Li actually does not avoid the wireless links (it sends the messages on to the mobile terminals). The same rejection and response applies to claim 10 on this point.
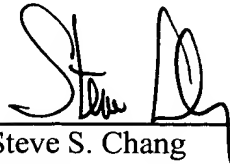
Conclusion

All rejections having been addressed, Applicant respectfully submits that pending claims 1-32 distinguish over the references of record, and are in condition for allowance. However, should the Examiner feel that additional discussion and/or amendment is needed to place the application in condition for allowance, the Examiner is invited to telephone Applicant's undersigned representative at the number appearing below.

Respectfully submitted,

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